

TRENDS IN WASHINGTON EARNINGS, 1989-1999: A REPORT BASED ON THE CENSUS

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Change in Age Distribution and its Impact on Mean Earnings

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Using data from the 1990 and 2000 five percent Public Use Microdata Sample (PUMS), the relationship between age and earnings was examined for all Washington residents aged 18 to 64 (including those working and not working). Earnings include wage, salary, commission, bonus, and tip income from all jobs before deductions and/or net income from self-employment.¹

Earnings are strongly related to age. Looking at Figure 1, one can see that among Washington State residents aged 18 to 64 those aged 18 to 24 earned far less than those 45 to 54. The mean earnings of those aged 18 to 24 were \$10,408 compared to \$37,135 for those aged 45 to 55 (see Figure 1). As people began to retire and/or reduce their participation in the labor force in their late fifties and early sixties, mean earnings declined.

Figure 1—Washington State's Mean Earnings by Age, 1999

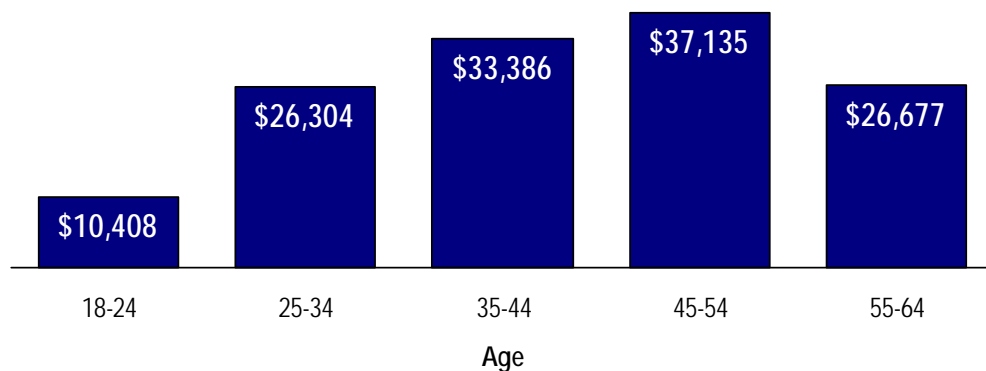
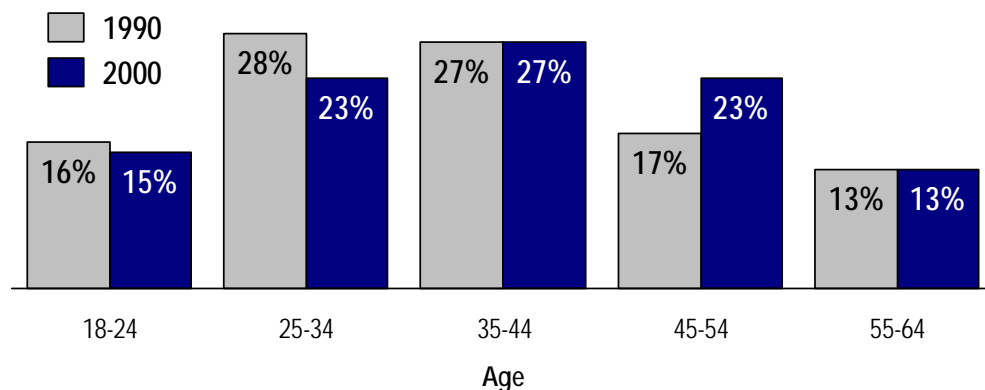


Figure 2—Age Distribution of Washington State, 1990–2000



The Washington State data used in this analysis come from the 2000 five percent Public Use Microdata Sample (PUMS). More information on these surveys can be found at the Census website: <http://www.census.gov/main/www/pums.html>.

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Change in Age Distribution

Between the 1990 and 2000 decennial censuses the age distribution of the population shifted. In 2000, Washington State's working age population became older, containing proportionately more people aged 45 to 54 and proportionately fewer people aged 25 to 34 (see Figure 2). In 2000, 23 percent of the Washington State's population was aged 25 to 34, down six percentage points from 1990. In contrast, 23 percent of Washington State's population was aged 45 to 54, up six percentage points from 1990.

The Effect of the Change in the Age Distribution on Earnings

In order to illustrate the effect of change in the age distribution of the population, one can standardize the population. If the age distribution of Washington State's population had remained the same from 1990 to 2000, then mean earnings in 1999 would have been \$27,507, \$784 less than the actual mean earnings (\$28,291). According to this, 16 percent of the \$4,759 dollar increase in earnings in 1999 can be attributed to the change in the age distribution from 1990 to 2000.

**Table 1—Mean Earnings and Population Distribution by Age
Earnings Adjusted for Inflation (1999 dollars)**

	Mean Earnings			Population Distribution		
	1989	1999	1999-1989	1990	2000	2000-1990
Age						
18-24	\$9,594	\$10,408	\$814	15.9%	15.0%	-0.8%
25-34	\$22,190	\$26,304	\$4,114	28.4%	22.6%	-5.8%
35-44	\$29,722	\$33,386	\$3,664	26.6%	26.7%	0.1%
45-54	\$31,269	\$37,135	\$5,866	16.6%	22.5%	5.9%
55-64	\$20,850	\$26,677	\$5,827	12.5%	13.2%	0.7%
Total	\$23,532	\$28,291	\$4,759	100%	100%	0%

Conclusion

While the aging working population is not the only explanation for the increase in earnings between 1989 and 1999, it certainly is a contributing factor. Other factors, such as changes in the educational distribution and employer related changes are also likely to affect earnings.

¹ The 2000 Census topcoded wage and salary earnings at \$336,000 and self-employment earnings at \$245,000. Total earnings are the sum of these two values. The 1990 Census total earnings adjusted for inflation were topcoded at \$500,320 (\$391,368 unadjusted).